WHAT IS CLAIMED IS:

1. A multiple aperture imaging system, comprising:

a) an array of lens elements for capturing light and reducing a diameter of exiting light bundles, wherein the exiting light bundles exit from the array of lens elements;

b) a means for correcting optical phase of the exiting light bundles;

c) a means for reducing a total area of the exiting light bundles; and

d) means for combining all the exiting light bundles from the array of lens elements to form an image with resolution comparable to a single lens element having an equivalent aperture size respective to the array of lens elements.

2. The multiple aperture imaging system claimed in claim 1, wherein the array of lens elements are arranged in a rectangular geometry.

3. The multiple aperture imaging system claimed in claim 1, wherein the means for reducing the total area of the exiting light bundles from the array of lens elements shifts placement of the exiting light bundles in a predetermined direction.

4. The multiple aperture imaging system claimed in claim 3, wherein the predetermined direction is selected from the group consisting of vertical, horizontal, diagonal, and radial.

5. The multiple aperture imaging system claimed in claim 4, wherein the means for reducing the total area of the exiting light bundles from the array of lens elements shifts the placement of the exiting light bundles both horizontally and vertically.

6. The multiple aperture imaging system claimed in claim 4, wherein the means for reducing the total area of the exiting light bundles from the array of lens elements shifts the placement of the exiting light bundles either horizontally or vertically.

7. The multiple aperture imaging system claimed in claim 1, wherein the array of lens elements are separated to create a sparse aperture.

8. The multiple aperture imaging system claimed in claim 1, wherein telescopes are used as lens elements.

9. The multiple aperture imaging system claimed in claim 1, wherein a plurality of mirrors are used instead of the array of lens elements. lacks antecedent

10. The multiple aperture imaging system claimed in claim 1, further comprising:

a1) an imaging sensor lacks antecedent is selected from the group consisting of an array of imaging capture elements, photographic film, charge-coupled devices, CMOS devices, and a spectrometer.

11. The multiple aperture imaging system claimed in claim 1, wherein the imaging system is foldable.

12. A method for forming an image with resolution equivalent to an array of lens elements, comprising the steps of:

a) capturing light with the array of lens elements;

b) directing the light exiting the array of lens elements into a plurality of exiting light bundles;

c) reducing the plurality of exiting light bundles' diameters;

d) correcting optical phase for the plurality of exiting light bundles;

e) reducing the plurality of exiting light bundles' geometrical area; and

f) combining each of the plurality of exiting light bundles from the array of lens elements to form an image with resolution comparable to a single lens element having an equivalent aperture size respective to the array of lens elements.

13. The method claimed in claim 12, wherein the array of lens elements is arranged in a rectangular geometry.

14. The method claimed in claim 12, wherein the means for reducing the area of the exiting light bundles from the array of lens elements shifts placement of the exiting light bundles in a predetermined direction.

15. The method claimed in claim 14, wherein the predetermined direction is selected from the group consisting of vertical, horizontal, diagonal, and radial.

16. The method claimed in claim 15, wherein the means for reducing the area of the exiting light bundles from the array of lens elements shifts the placement of the exiting light bundles both horizontally and vertically.

17. The method claimed in claim 15, wherein the means for reducing the area of the exiting light bundles from the array of lens elements shifts the placement of the exiting light bundles either horizontally or vertically.

18. The method claimed in claim 12, wherein the lens elements are separated to create a sparse aperture.